

REMARKS

Entry of the present amendment and favorable reconsideration and allowance of this application are requested.

1. Discussion of Claim Amendments

By way of the amendment instructions above, the subject matter of prior claim 6 has been incorporated into claim 1. As such, claim 6 has been canceled as redundant.

Therefore, following entry of this amendment, claims 1-4 and 7 will remain pending herein for which favorable reconsideration is requested.

2. Response to Art-Based Rejections

The Examiner persists in his rejection of the claims based on the previously cited Matsumura et al and Harashina et al publications. Specifically, Matsumura et al has been applied against prior pending claims 1-4 and 6-7 to reject the same alternatively under 35 USC §§102(b) or 103(a).¹ In addition, Harashina et al has been combined with Matsumura et al to reject prior claims 1-4 and 6-7 under 35 USC §103(a). Applicants respectfully disagree.

IN this regard, applicants note that Matsumura's claim 1 only proposes a process for preparing thermoset resins wherein compounds with 2-4 cyclic iminoether functionalities are reacted with organic compounds containing alcoholic hydroxyl groups, aromatic amino groups and aromatic aminomethyl groups in the presence of a catalyst.

The examples 24-26 of Matsumura to which the Examiner refers to are a clear illustration thereof. The starting compounds used therein are (a) diphenyl isophthalate (318 parts), (b) m-xylenediamine (122 parts), and (c) 4,4'-diaminodiphenylmethane (40

¹ The reference to claims 1-7 in the Examiner's rejections appears to be a typographical error since claim 5 was previously canceled.

parts). These data correspond with the following molar weights and molar amounts: (a) 316, 1.006 mole; (b) 136, 0.897 mole; and (c) 196, 0.204 mole.

Applicants acknowledge that reaction of the diamines (b) and (c) with the diester (a) will result in transamination of the ester groups thereby forming a copolyamide. However, the resulting copolyamide does not have carboxyl groups.

The diamines (b) and (c) are used in molar excess compared to the diester (a), thus resulting in a (pre)polymer compound with residual aromatic aminomethyl groups from 9b) and/or aromatic amino groups from (c). The molar amount of the residual amino groups will be far less than that of the starting compounds because a large part will be incorporated in the amide groups.

According to Matsumura, 100 parts of the (pre)polymer were then reacted with 9d) a dioxazine (70 respectively, 100 and 150 parts). A molecular weight (M_w) of 244 for component (d) corresponds to 0.286 mole, respectively 0.410 and 0.614 mole. These amounts are certainly in excess to the residual amino groups. The final products remain unchanged with immersed in NMP, indicative of crosslinking reactions. Thus reactions other than a reaction of oxazine just with amino groups must have occurred.

Thus, applicants again reiterate that in Matsumura there is no reaction of oxazines with carboxyl groups, nor any indication that such a reaction may be performed under mild conditions (i.e., without a catalyst and without side reactions). To the contrary, with the process of the present invention, a polymer composition is produced with an improved speed of reaction. Moreover, the process is less sensitive to side reactions in the polymer composition that would otherwise result in e.g., discoloration.

Finally, notwithstanding the above, in the process according to the presently claimed invention, the concentration of the oxazine is much lower than that employed in Matsumura. Specifically, according to the presently claimed invention the oxazine is present in an amount of 0.01-5wt.% relative to the amount of the polymer.

Therefore, applicants maintain that the present invention is both novel and unobvious over Matsumura et al.

Regarding the combination of Harashina with Matsumura et al, applicants note that the former deals with reducing negative effects of flame retardants, and uses different additives with functional groups, including types that are not good, such as oxalines, as mentioned in the applicants' pending application. However, Harashina does not disclose reaction of oxazines with carboxyl groups. There is therefore no incentive in Harashina to modify Matsumura and replace the amino groups therein by carboxyl groups. Certainly there is no reason to expect there results according to the present invention based on the disclosure of the applied references.

Therefore withdrawal of the rejection based on the combination of Matsumura and Harashina is also in order.

3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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